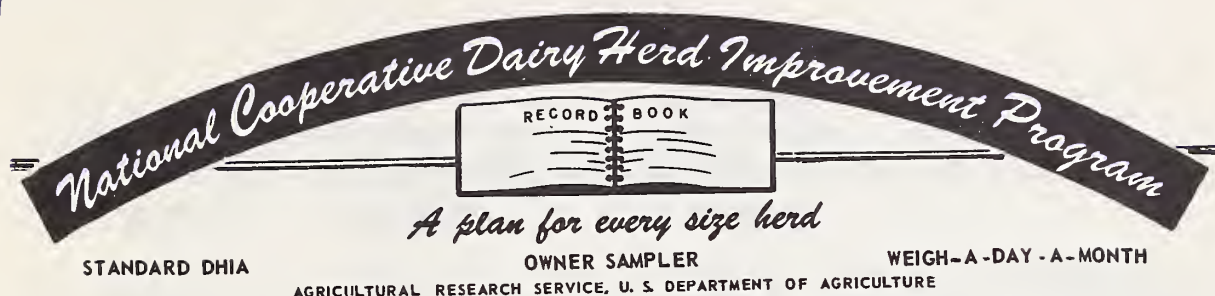


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Dairy-Herd-Improvement Letter

ARS-44-181
(Vol. 42, No. 5)

June 1966

RESUME OF 1965-66 1/

Genetic Appraisal of Sires

Quarterly sire evaluations were continued during 1965-66. These genetic appraisals were based on evaluations of 4,091 AI sires and of 13,634 non-AI sires. Collectively, the appraisals resulted in 53,848 individual sire records (DHIA Form 1202's) for the cooperating States and were based on 1,760,503 lactation records reported since the last evaluation in 1964-65. A further summary of the quarterly sire evaluations is shown in table 1.

Genetic Appraisal of Cows

The semiannual DHIA Cow Performance Index Lists (ARS-44-170 and ARS-44-180) were issued in January and July 1966, respectively. This indexing procedure is used to evaluate and recognize genetically superior cows. A total of 13,540 cows was evaluated after about 580,000 potential qualifiers were screened. A summary of minimum milk index levels and number of cows evaluated by breed follows:

- - - - -

1/ Double years refer to a fiscal year--the period that begins July 1 in the year stated first and ends June 30 in the year stated last. Unless stated otherwise, single years refer to a calendar year.

Issued July 1966

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AUG 18 1966

CURRENT SERIAL RECORDS

Breed	Minimum milk index	Cow evaluation listed in-	
	level 1/ <u>Pounds</u>	ARS-44-170 <u>Number</u>	ARS-44-180 <u>Number</u>
Ayrshire-----	1,550	277	328
Guernsey-----	1,200	994	1,286
Holstein-----	1,725	5,699	3,562
Jersey-----	1,175	391	475
Brown Swiss-----	1,600	233	264
Milking Shorthorn--	1,350	<u>14</u>	<u>17</u>
Total-----		7,608	5,932

1/ Index equated to genetic superiority over herd mates. The average milk index value of the 13,540 selected cows was greater than 2,000 pounds.

Cow Production Levels

The 1964-65 production average for cows on Standard DHIA testing was 11,976 pounds of milk and 457 pounds of fat. This was an increase of 291 pounds of milk and 10 pounds of fat per cow over 1963-64. The superiority of DHIA cows over non-DHIA cows increased to 4,708 pounds - 190 pounds more than a year ago. Owner-Sampler cows averaged 11,402 pounds of milk and 423 pounds of fat.

Participation in DHIA Recordkeeping Plans

On January 1, 1966, the combined DHIA recordkeeping program included 66,298 herds and 2,955,387 cows. The animals in the recordkeeping program are 19.1 percent of the nation's dairy cow population. This compares with 18.4 percent in 1965. However, herds and cows decreased by 1,610 and 7,170, respectively, compared with records of the previous year. Of the total on DHIA recordkeeping, 38,879 herds and 2,058,592 cows were on the Standard plan; 26,259 herds and 839,838 cows were on the Owner-Sampler plan; and 1,160 herds and 56,957 cows were on the Weigh-a-Day-a-Month plan.

Cow Indexes

The progeny of both AI and non-AI bulls were included in the two cow indexes (ARS-44-170 and ARS-44-180) computed during the year. Daughters and non-AI bulls were evaluated

solely on the basis of their own performance versus that of herdmates. In the case of AI progeny, both performance of daughters versus that of herdmates and the performance of the sire were included in the index.

The name and address of the herd owner are included in the DHIA Cow Performance Index List if the cow was from a herd whose records were machine processed.

6,926 SIRES SUMMARIZED IN FEBRUARY 1966

A total of 5,699 non-AI and 1,227 AI sires were evaluated in February 1966. A summary of the 18,770 sire records made available to the cooperating States is shown in table 2.

2,129 SIRES SUMMARIZED IN MAY 1966

A total of 1,240 non-AI and 889 AI sires were evaluated in May 1966. A summary of the 9,268 sire records made available to the cooperating States is shown in table 3.

271,828 COWS SUMMARIZED IN MAY 1966

A total of 14,946 non-AI progeny and 256,882 AI progeny were evaluated in May 1966. Included in the evaluation were 347,676 lactation records received and processed since the previous summary.

1964 BREED-SEASON LACTATION AVERAGES

Breed-season lactation averages for DHIA cows that calved in 1964 are shown in table 4. The average of all available and usable 1,434,253 lactation records was 12,633 pounds of milk and 481 pounds of fat. Grade cows comprise 59 percent of the total. The production represents an increase of 307 pounds of milk and 10 pounds of fat over 1963. The usual and expected seasonal trends were evident.

Lactation averages grouped by breed and by registered and nonregistered categories are shown in table 5. By weighting the within-breed milk yield differences between registered and grade cows by the number of records reported in the respective breed, an overall registered breed superiority of 951 pounds of milk and 42 pounds of fat can be obtained. However, it should be recognized that such gross differences, which are not on a within-herd basis, do not necessarily reflect the relative producing ability of grade and registered cows under comparable environment.

TABLE 1.--Sire summaries made in 1965-66

Evaluation	AI		Non-AI		Summaries to States	Records added since previous run
	Sires	Progeny	Sires	Progeny		
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
August 1965	994	301,351	3,990	57,761	14,917	366,618
November 1965	981	225,583	2,705	24,381	10,893	626,772
February 1966	1,227	310,998	5,699	90,056	18,770	419,437
May 1966	889	256,882	1,240	14,946	9,268	347,676
Overall	4,091	1,094,814	13,634	187,144	53,848	1,760,503

TABLE 2.--Number of sire records summarized February 1966, by State and breed

State	Ayrshire	Guernsey	Holstein	Jersey	Brown Swiss	Shorthorn	Red Dane	Other	Red Poll	Total
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Maine-----	20	39	168	46	9	--	--	--	--	282
New Hampshire-----	33	28	156	52	13	1	--	--	--	283
Vermont-----	44	53	332	105	25	1	--	--	--	560
Massachusetts-----	42	54	265	64	18	1	--	--	--	444
Rhode Island-----	18	20	76	8	--	--	--	--	--	122
Connecticut-----	29	96	257	36	16	--	--	--	--	434
New York-----	71	135	894	128	43	2	1	--	--	1,274
New Jersey-----	4	82	251	25	28	--	--	--	--	390
Pennsylvania-----	65	252	774	87	42	11	--	1	--	1,232
Ohio-----	35	156	479	152	71	7	--	--	--	900
Indiana-----	18	145	353	79	47	15	2	--	1	660
Illinois-----	29	120	398	60	63	8	--	--	--	678
Michigan-----	18	88	491	67	37	6	3	--	--	710
Wisconsin-----	16	192	795	69	62	12	--	--	2	1,148
Minnesota-----	34	107	552	64	54	20	--	--	--	831
Iowa-----	35	94	464	77	71	24	--	--	--	765
Missouri-----	--	59	233	58	12	13	--	--	--	375
North Dakota-----	--	14	116	2	15	2	--	--	--	149
South Dakota-----	17	9	138	8	12	--	--	--	--	184
Nebraska-----	5	41	172	26	16	9	--	--	--	269
Kansas-----	27	52	259	45	34	7	--	--	--	424
Delaware-----	7	17	93	10	5	--	--	--	--	132
Maryland-----	20	85	269	31	25	2	--	--	--	432
Virginia-----	21	110	314	35	29	--	--	--	--	509
West Virginia-----	13	17	123	21	2	--	--	--	--	176
North Carolina-----	12	92	214	79	14	--	--	--	--	411
South Carolina-----	4	107	123	73	21	1	--	--	--	329
Georgia-----	18	44	171	70	29	--	--	--	--	332
Florida-----	8	97	109	68	19	--	--	--	--	301
Kentucky-----	5	47	214	52	18	--	--	--	--	336
Tennessee-----	25	77	162	97	33	4	--	--	--	398
Alabama-----	10	41	95	67	14	--	--	--	--	227
Mississippi-----	14	55	70	68	13	--	--	--	--	220
Arkansas-----	2	23	85	18	2	5	--	--	--	135
Louisiana-----	--	54	49	23	6	--	--	--	--	132
Oklahoma-----	14	38	127	26	8	8	--	--	--	221
Texas-----	7	35	172	81	15	2	--	--	--	312
Montana-----	2	7	43	7	6	--	--	--	--	65
Idaho-----	7	43	152	34	7	--	--	--	--	243
Wyoming-----	--	4	19	--	--	--	--	--	--	23
Colorado-----	3	43	128	18	18	2	--	--	--	212
New Mexico-----	--	21	65	12	--	--	--	--	--	98
Arizona-----	--	26	105	9	1	--	--	--	--	141
Utah-----	4	25	152	20	--	--	--	--	--	201
Nevada-----	--	--	24	16	2	--	--	--	--	42
Washington-----	12	63	139	46	5	4	--	--	--	269
Oregon-----	4	43	87	56	9	2	--	--	--	201
California-----	14	42	357	82	23	--	--	--	--	518
Puerto Rico-----	--	--	8	--	--	--	--	--	--	8
Hawaii-----	--	--	12	--	--	--	--	--	--	12
Alaska-----	--	--	6	--	14	--	--	--	--	20
Total sire records sent to States-----										18,770
Sire records summarized-----	247	1,219	4,186	898	292	77	3	1	3	6,926

TABLE 3.--Number of sire records summarized May 1966, by State and breed

State	Ayrshire	Guernsey	Holstein	Jersey	Brown Swiss	Shorthorn	Red Dane	Other	Red Poll	Total
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Maine-----	9	28	85	26	5	--	--	--	--	153
New Hampshire-----	17	20	96	27	8	1	--	--	--	169
Vermont-----	19	37	167	53	18	--	--	--	--	294
Massachusetts-----	18	35	136	30	11	--	--	--	--	230
Rhode Island-----	12	17	51	3	--	--	--	--	--	83
Connecticut-----	13	39	130	16	11	--	--	--	--	209
New York-----	31	64	338	62	27	--	1	--	--	523
New Jersey-----	4	42	139	19	22	--	--	--	--	226
Pennsylvania-----	29	102	326	39	24	1	--	--	--	521
Ohio-----	18	56	197	46	29	2	--	--	--	348
Indiana-----	13	55	157	27	23	6	2	--	--	283
Illinois-----	18	59	205	31	25	3	--	--	--	341
Michigan-----	11	41	186	23	16	3	3	--	--	283
Wisconsin-----	11	79	304	35	32	6	--	--	--	467
Minnesota-----	19	43	243	30	24	7	--	--	--	366
Iowa-----	16	34	235	39	30	7	--	--	--	361
Missouri-----	--	27	117	18	5	4	--	--	--	171
North Dakota-----	--	8	65	4	9	2	--	--	--	88
South Dakota-----	11	6	84	6	5	--	--	--	--	112
Nebraska-----	4	24	106	14	15	3	--	--	--	166
Kansas-----	14	24	121	18	21	2	--	--	--	200
Delaware-----	6	12	57	7	3	--	--	--	--	85
Maryland-----	11	47	170	21	19	1	--	--	--	269
Virginia-----	12	50	137	20	20	--	--	--	--	239
West Virginia-----	11	13	85	13	1	--	--	--	--	123
North Carolina-----	10	38	133	32	10	--	--	--	--	223
South Carolina-----	3	41	76	38	10	--	--	--	--	168
Georgia-----	11	18	84	29	13	--	--	--	--	155
Florida-----	9	40	64	31	13	--	--	--	--	157
Kentucky-----	7	22	121	18	12	--	--	--	--	180
Tennessee-----	15	43	80	25	18	2	--	--	--	183
Alabama-----	6	17	56	23	7	--	--	--	--	109
Mississippi-----	10	33	43	26	7	--	--	--	--	119
Arkansas-----	2	10	59	7	2	3	--	--	--	83
Louisiana-----	--	27	37	10	5	--	--	--	--	79
Oklahoma-----	10	17	67	14	4	6	--	--	--	118
Texas-----	8	20	111	35	12	--	--	--	--	186
Montana-----	2	5	21	8	4	--	--	--	--	40
Idaho-----	7	26	93	21	6	1	--	--	--	154
Wyoming-----	--	5	14	--	--	--	--	--	--	19
Colorado-----	3	29	89	7	7	--	--	--	--	135
New Mexico-----	--	10	42	8	--	--	--	--	--	60
Arizona-----	--	21	60	4	1	--	--	--	--	86
Utah-----	4	17	80	17	--	--	--	--	--	118
Nevada-----	--	--	18	15	2	--	--	--	--	35
Washington-----	11	36	81	20	5	--	--	--	--	153
Oregon-----	3	29	59	22	4	--	--	--	--	117
California-----	13	29	179	22	12	--	--	--	--	255
Puerto Rico-----	--	--	7	--	--	--	--	--	--	7
Hawaii-----	--	--	7	--	--	--	--	--	--	7
Alaska-----	--	--	3	--	9	--	--	--	--	12
Total sire records sent to States----										9,268
Sire records summarized-----	86	356	1,284	282	93	25	3	--	--	2,129

TABLE 4.--Breed-season DHIA lactation averages for calvings in 1964

Calving month	Records		Average production		
	Registered	Total	Milk	Fat	
	Percent	Number	Pounds	Percent	Pounds
<u>AYRSHIRE</u>					
January-----	80	2,050	10,980	4.02	441
February-----	79	1,851	10,991	4.00	440
March-----	77	2,115	10,857	3.99	433
April-----	74	1,478	10,655	4.02	428
May-----	77	1,265	10,609	3.99	423
June-----	76	1,385	10,330	3.99	412
July-----	77	2,239	10,024	4.03	404
August-----	77	2,878	10,142	4.06	412
September-----	78	3,038	10,442	4.10	428
October-----	78	2,853	10,828	4.09	443
November-----	77	2,397	10,983	4.07	447
December-----	76	2,262	11,010	4.03	444
Overall-----	77	25,811	10,645	4.04	430
<u>GUERNSEY</u>					
January-----	68	11,568	9,541	4.73	451
February-----	66	10,065	9,490	4.71	447
March-----	67	10,027	9,524	4.69	447
April-----	66	8,362	9,373	4.71	441
May-----	66	7,607	9,185	4.69	431
June-----	66	7,848	8,954	4.71	422
July-----	68	10,585	8,726	4.78	417
August-----	64	13,713	8,632	4.82	416
September-----	64	14,148	8,886	4.85	431
October-----	63	13,584	9,266	4.83	448
November-----	66	12,811	9,524	4.79	456
December-----	64	11,733	9,570	4.74	454
Overall-----	65	132,051	9,213	4.77	439
<u>HOLSTEIN</u>					
January-----	38	88,203	13,735	3.63	498
February-----	36	74,975	13,666	3.62	495
March-----	35	74,907	13,640	3.62	494
April-----	34	59,191	13,590	3.61	490
May-----	34	55,065	13,410	3.60	483
June-----	33	62,897	13,161	3.62	477
July-----	35	92,143	12,870	3.64	469
August-----	33	127,658	12,890	3.66	472
September-----	34	135,496	13,324	3.68	490
October-----	34	136,083	13,719	3.68	505
November-----	35	123,451	13,865	3.66	508
December-----	34	110,137	13,850	3.64	504
Overall-----	35	1,140,206	13,479	3.65	492
<u>JERSEY</u>					
January-----	61	8,557	8,802	5.08	447
February-----	58	7,522	8,843	5.05	447
March-----	58	7,086	8,874	5.05	448
April-----	56	5,714	8,761	5.03	441
May-----	55	5,113	8,556	5.00	428
June-----	53	5,590	8,428	5.04	425
July-----	58	8,442	8,062	5.09	410
August-----	56	11,487	7,933	5.12	406
September-----	56	11,571	8,098	5.17	419
October-----	57	11,196	8,434	5.18	437
November-----	57	10,446	8,652	5.14	445
December-----	56	9,646	8,855	5.09	451
Overall-----	57	102,370	8,486	5.10	433

TABLE 4.--Breed-season DHIA lactation averages for calvings in 1964 (Con't.)

Calving month	Records		Average production		
	Registered	Total	Milk	Fat	
	Percent	Number	Pounds	Percent	Pounds
<u>BROWN SWISS</u>					
January-----	69	2,586	12,228	4.05	495
February-----	71	2,209	12,308	4.03	496
March-----	69	2,392	12,109	4.03	488
April-----	71	1,980	11,935	4.02	480
May-----	67	1,749	11,705	4.00	468
June-----	66	1,868	11,535	4.03	465
July-----	71	2,596	11,206	4.10	459
August-----	65	2,925	11,091	4.12	457
September-----	66	2,898	11,532	4.14	478
October-----	65	2,850	11,856	4.14	491
November-----	66	3,031	12,132	4.13	501
December-----	66	2,504	12,200	4.09	499
Overall-----	68	29,588	11,812	4.08	482
<u>MILKING SHORTHORN</u>					
January-----	82	347	9,289	3.74	347
February-----	81	305	9,787	3.69	361
March-----	86	319	9,839	3.71	365
April-----	81	220	9,745	3.70	361
May-----	86	191	9,285	3.67	341
June-----	80	190	9,429	3.73	352
July-----	85	310	8,790	3.71	326
August-----	83	374	8,707	3.76	327
September-----	82	403	8,901	3.79	337
October-----	82	456	9,243	3.80	351
November-----	84	379	9,663	3.80	367
December-----	80	322	9,550	3.78	361
Overall-----	83	3,816	9,323	3.74	349
<u>RED DANE</u>					
January-----	--	13	11,799	3.83	452
February-----	--	9	11,927	3.84	458
March-----	--	30	12,237	4.00	489
April-----	--	12	11,718	3.86	452
May-----	--	7	11,603	4.08	473
June-----	--	12	11,453	4.09	468
July-----	--	42	10,717	3.94	422
August-----	--	45	10,547	3.92	413
September-----	--	34	11,046	4.10	453
October-----	--	32	12,375	4.02	497
November-----	--	25	12,499	3.97	496
December-----	--	10	12,953	3.78	490
Overall-----	--	271	11,533	3.96	457
<u>RED POLL</u>					
January-----	84	25	8,631	3.97	343
February-----	75	12	9,167	3.79	347
March-----	84	19	8,128	4.01	326
April-----	67	3	8,117	3.97	322
May-----	60	10	9,004	3.96	357
June-----	80	5	7,264	3.91	284
July-----	50	2	5,800	3.97	230
August-----	46	13	7,966	3.92	312
September-----	57	7	7,339	4.05	297
October-----	88	8	6,770	3.93	266
November-----	90	20	6,695	4.17	279
December-----	75	16	8,051	4.17	336
Overall-----	76	140	7,959	4.00	318
United States--	41	1,434,253	12,633	3.81	481

TABLE 5.--Breed-season DHIA lactation averages for calvings in 1964, by breed-registered and non-registered

Breed	Registered			Non-registered			All		
	Records	Milk	Fat	Records	Milk	Fat	Records	Milk	Fat
	Number	Pounds	Percent	Number	Pounds	Percent	Number	Pounds	Percent
Ayrshire-----	19,954	10,800	4.1	5,857	10,118	4.0	25,811	10,645	4.0
Guernsey-----	86,436	9,419	4.8	45,615	8,822	4.6	132,051	9,213	4.8
Holstein-----	393,525	14,181	3.7	746,681	13,109	3.6	1,140,206	13,479	3.7
Jersey-----	58,149	8,617	5.2	44,221	8,314	5.0	102,370	8,486	5.1
Brown Swiss-----	20,002	11,988	4.1	9,586	11,444	4.0	29,588	11,812	4.1
Milking Shorthorn-	3,153	9,217	3.7	663	9,826	3.8	3,816	9,323	3.7
Red Dane-----	-----	-----	---	271	11,533	4.0	271	11,533	4.0
Red Poll-----	106	7,650	4.0	34	8,923	4.0	140	7,959	4.0
United States-----	581,325	12,697	3.9	852,928	12,589	3.7	1,434,253	12,633	3.8
									3.8

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